



A Touchstone Energy® Cooperative 

P.O. Box 390, Fredonia, KS 66736

620-378-2161

www.radiantec.coop

**RADIANT
ELECTRIC CO-OP**

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Office Hours

Monday-Friday, 8 a.m. to 5 p.m.

Cost of Service Study Results

The detailed Cost of Service Study is complete. We have included a series of articles in this publication in the last few months explaining the process. The study is a very detailed analysis of the cooperative's cost of providing electric service and the rates charged for the service. This process studies the true cost to provide service by type of customer, such as residential, small commercial and large commercial. These costs are compared to the current rates assigned by class to assure that all customers are charged fairly for the service received.

The completed study provided a detailed evaluation of consumer related, demand related, energy related, and direct cost and investments in providing service to each of the various rate classes, as well as an understanding of the financial performance of each of the rate schedules.

The resulting 10-year financial forecast provided a pro forma operating statement, balance sheet and cash flow analysis. The financial statements provide an understanding of the amount of additional revenue required to meet certain financial requirements and objectives based on projected changes in plant, expense, consumers, sales and rates, as well as the impact of wholesale power cost changes.

The rate design of the study provides the analysis to determine how additional revenue will be allocated to each rate class and how this ad-

ditional revenue by rate class will be recovered through the components of each rate class.

The Board of Trustees reviewed the results, which showed that overall electric rate revenues should be increased by \$394,513 or 3.96 percent average overall.

Included in the proposed overall increase to be considered is a change in the monthly customer charge. The charge is the cost to provide service, regardless of energy use. These charges are designed to recover those costs that do not vary with the amount of energy used. A portion of the cooperatives costs are the same for all customers whether they use 50 kWh per month or 2,000 kWh per month. The cooperative has made similar investments in poles, wire and transformers and incurs similar cost for reading meters, billing and consumer accounting. Increasing the fixed charges to match actual costs helps minimize the amount of increase on energy charges and more accurately tracks costs of providing electric service.

Rate increases are not a consequence taken lightly or without careful consideration and analysis. We are aware of the burden we place on our members when we increase the cost of something as necessary as the electricity we provide. You can find more information in the August issue of *Kansas County Living*.

Appreciating Electricity a Penny at a Time

BY CURTIS CONDON, EDITOR OF RURALITE MAGAZINE

I'm old enough to remember when penny candy actually cost a penny. For a nickel, you could buy enough candy to rot your teeth out, as my mother used to say.

But what does a penny buy these days? Not much. The government can't even make a penny for a penny anymore. According to the U.S. Mint, it now costs 1.5 cents to produce one.

About the only thing of value you can still get for a penny is electricity. You might call it "penny electricity." No, I'm not kidding. Think about it.

To make the math easier, let's say the average rate for a kilowatt-hour of electricity is 10 cents. That is 60 minutes of 1,000 watts of electricity for a dime, so a penny of electricity equates to 100 watts. It's enough to power a 9-watt LED lightbulb—the equivalent of a 60-watt incandescent bulb—for 11 hours, all for only a penny.

Where else can you get that kind of value? How many eggs will a penny buy? How much milk, bread, coffee, medicine or gasoline?

Gas has come down from its stratospheric levels of several years ago, but there is still no comparison to the value of electricity. For example, if a gallon of gas costs \$2.50 and your car gets 25 miles to the gallon, you can drive 176 yards—about two blocks—on a penny's worth of gas. I will take 11 hours of lighting for a penny over a two-block drive any day.

The value is just as evident when powering things other than lighting. Take, for instance, your smartphone. Using the same 10 cents per kWh price, penny electricity allows you to fully charge your iPhone more than 18 times for a penny. You can charge it once every day of the year for about 20 cents total.

Not impressed? Well, how about these other examples of what you can do with just a penny's worth of electricity: power a 1,000-watt microwave on high for 6 minutes; run a 200-watt desktop computer for 30 minutes; watch 2.5 hours of your favorite shows on a 40-watt, 32-inch, LED television or 1.3 hours on a 75-watt, 75-inch mega TV.

The examples are endless.

We are fortunate electricity is such an excellent value because we have a huge appetite for it. We tend to forget that.

Electricity is not expensive. It's that we use it for so many different things: lighting, heating, cooking, cooling, refrigeration, cleaning, washing, pumping, entertainment, communications—even transportation these days.

Few corners of our lives are left untouched by electricity.

Unfortunately, we don't always appreciate it. When our monthly electric bill comes, we open it and may complain about the cost. It's a knee-jerk reaction ingrained in us as consumers. We don't stop to think about the value we received for the money.

Early in my career, I had the pleasure to interview an elderly woman who vividly remembered the day electricity came to her farm. Her name escapes me, but I do remember she proudly showed me the worn, dog-eared membership certificate the co-op issued to her husband.

"You young people will never know what it was like to have electricity for the very first time," she said. "It was glorious. Nowadays, you take it for granted."

Her farm was energized in 1940. She said the price of electricity at the time was slightly less than a penny a kilowatt-hour—true penny electricity.

A lot has changed since then. Wages and the cost of living today are a far cry from 1940, when the average annual wage was less than \$150 a month and the average cost of a house was \$3,920.

But one thing that hasn't changed is the value of electricity. In 77 years, its price has risen much slower than the rate of inflation.

A penny in 1940 had as much buying power as 17 cents today, which means the residential price of electricity—which now averages 12 cents a kWh nationally and less than 10 cents in the Pacific Northwest—is actually a better deal today than it was in 1940.

So to my way of thinking, the value of electricity is like the bygone days of penny candy, and it's OK to indulge yourself a little. But, unlike penny candy, penny electricity won't rot your teeth out.

About the only thing of value you can still get for a penny is electricity. You might call it "penny electricity." No, I'm not kidding. Think about it.



Cast a Line for Summer Water Safety

When relaxing on or near the water, the dangers of electricity may seem far off. However, for those boating, fishing and swimming, awareness of potential electrical hazards in and around the water is very important. Safe Electricity provides tips to help you stay safe when enjoying water recreation activities.

“The first step for boating and fishing safety is to keep your eyes open and be aware,” explained Matt Eisenmenger, Safe Electricity Advisory Board member. “Look out for signs that warn of hazards or areas where swimming is not allowed. Heed the advice, and never take a chance with your safety.”

In addition to looking out for warning signs, it is also important to look up and look out for overhead power lines. Take the time to plan your route before transporting and launching your boat. Make sure the masts of sailboats have plenty of clearance from all overhead wires. Do not raise a mast or antenna when your boat is near a power line. Never attempt to move a power line out of the way so that a boat can pass underneath. Keep in mind that water levels are constantly changing, altering the distance between the water and the line.

If your boat does come in contact with a power line, do not enter the water. The water could be energized. Instead, stay in the boat and avoid touching anything metal until help arrives or until your boat is no longer in contact with the line.

Always remember to look up before you begin to fish. Do not cast your line when you are anywhere near overhead lines. It is dangerous not only to make contact with the overhead line, but also for fishing equipment to come close to electrical systems.

Do not swim around docks with electrical equipment or boats plugged

Marina Safety Checklist

Familiarize yourself with your marina to help prevent electrical hazards. Use the following checklist when talking with the marina manager or owner about potential safety concerns.

- Are any cords cracked or frayed?
- Is there corrosion or other damage on any of the power pedestals?
- When was the marina last inspected? Inspections should be performed yearly.
- What edition of the codes (NEC, NFPA, ABYC) does the marina comply with?
- What type of ground fault protection does the marina provide?

Source: *Electrical Safety Foundation International (ESFI)*

into shore power. If you are in the water and feel a tingle of electric current, shout to let others know, try to stay upright, tuck your legs up to make yourself smaller, and swim away from anything that could be energized. Do not head to boat or dock ladders to get out.

If you see someone who you suspect is getting shocked, do not immediately jump in to save them. Throw them a float, turn off the shore power connection at the meter base, and/or unplug shore power cords. Try to eliminate the source of electricity as quickly as possible; then call for help.

To help reduce the risk of electricity entering the water, have your boat and dock electrical systems regularly inspected and maintained by a professional familiar with marine electrical codes.

Check weather forecasts. Stay off the water when storms are expected. You are not safe from lightning strikes while outside, so once you hear thunder get to a safe shelter such as an enclosed building with electricity or plumbing or an enclosed metal-topped vehicle with its windows up. Wait until at least 30 minutes have passed without thunder to return outside.

Summer Hours for Line Crews

Radiant Electric Cooperative's line crew is on summer hours beginning July 5 and will resume normal working hours on Sept. 5.

Each summer, the line department works from 7 a.m. to 3:30 p.m. to complete most of the day's work before the major heat of the day arrives. However, the office maintains regular business hours from 8 a.m. to 5 p.m., Monday through Friday during the summer.

If you have questions or would like to report an outage during regular business hours, please contact us at 620-378-2161. To report an outage after hours, you may call our toll-free number 800-821-0956 or 620-378-2161.

Welcome New Members

Carl Potter Jr., <i>Buffalo</i>	Sheila Holland, <i>Fredonia</i>
Greg Strang, <i>Buffalo</i>	AMS Energy Inc., <i>Independence</i>
Matt Walker, <i>Buffalo</i>	Brandon Blome, <i>Independence</i>
Daniel Dawson, <i>Caney</i>	Zane Mozingo, <i>Independence</i>
Brandon Grant, <i>Caney</i>	Aaron Pouncil, <i>Independence</i>
Monty Speakman, <i>Chanute</i>	Bryan Long, <i>Liberty</i>
Terry Henning, <i>Cherryvale</i>	Carri Kemp, <i>Neodesha</i>
Jeremy Stefanopoulos, <i>Coffeyville</i>	Kimberly Raida, <i>Thayer</i>

Office Closed on July 4

In observance of Independence Day, our offices will be closed on Tuesday, July 4. Radiant Electric wishes you a safe and happy holiday.

Local Event Calendar

CHANUTE

SUNDAYS AND THURSDAYS – VFW Bingo: At 6 p.m., Sunday and 6:30 p.m., Thursday.

MONDAYS – American Legion Post 170 hosts Monday Night Feed.

TUESDAYS – Farmers Market: Begins at 4:30 p.m., at Main Street Pavilion.

JULY 4 – Fourth of July Celebration: Live music and fireworks.

JULY 31 – Historical Society presentation: History of the “Harvey Girls.”

AUG. 5 – Safari Museum Adventure Duck Race.

AUG. 12 – Chanute Blues Blast Concert.

COFFEYVILLE

JULY 7 – Vaude in the Ville: At the Spencer Rounds Theatre, Coffeyville Community College. Enjoy a variety show with drink and hors d'oeuvres and help support Midland Theater.

JULY 8 – Fireworks & Summer Celebration: At Walter Johnson Park, all day event, car show, kids' games, food vendors, activities and huge fireworks display.

FREDONIA

TUESDAYS AND FRIDAYS – Farmers Market: At 7:30 a.m., Tuesday and 4 p.m., Friday in the Methodist Church parking lot.

JULY – Summer Arts Program: For all ages. For more information or to sign up for classes, contact the Fredonia Arts Council at 620-378-2052.

JULY 1 – Chamber of Commerce Summerfest & Kickoff of Kansas Humanities Council Water/Ways Exhibit: By Wilson County Conservation District, activities all day at West Park.

JULY 4 – City Fireworks: At Cec Pryor Field – Gene John Stadium at dusk.

JULY 8 – FFA Alumni Scholarship Truck & Tractor Pull: 5 p.m., Rolling “Red” Vandever Memorial Park.

JULY 14 – Wilson County Relay for Life: 7 p.m.-1 a.m., Cec Pryor Field – Gene John Stadium.

JULY 26-31 – Wilson County Fair & Rodeo.

AUG. 1 – National Night Out: 6:30 p.m., City Pool.

AUG. 5 – Fredonia Arts Council 50th Anniversary Gala. 7 p.m., Stone House Gallery.

INDEPENDENCE

TUESDAYS – Mid Continent Band performance: 8 p.m., Riverside Park Bank Shell.

SATURDAYS IN JUNE & JULY – Farmers Market: 7:30 a.m.-10:30 a.m., corner of Penn & Myrtle.

THROUGH JULY 15 – Verdigris Valley Art Exhibit: Historical Museum & Art Center.

JULY 4 – Fireworks Display: At Riverside Park.

JULY 8 – 30th Annual Chamber Golf Classic: At Independence Country Club.

New Technology Improves Reliability

“The only things certain in life are death and taxes,” as the old saying goes. Well, we can add another to the list: power outages. An outage can range from annoying to dangerous, depending upon its timing and length.

Radiant Electric's primary goal is to deliver the highest quality of electric service at the lowest possible price. Perhaps the key measure of quality in the eyes of members is the number of times their lights blink or go out.

Let's talk about how the grid is designed as a backdrop to how technology is improving reliability by reducing blinks and outages. Along the power lines that bring electricity to your home, Radiant installs protective devices in the form of fuses and reclosers (high-voltage circuit breakers). Fuses and reclosers serve the same purpose as the fuses and circuit breakers in your home.

A fuse is a single device. When a fault occurs, the fuse blows and everyone downstream from it loses power. Reclosers are multi-shot devices, meaning they can operate a certain number of times before they stay open and an outage occurs. A common setting is what's known as a triple-shot. Here's how that works. A tree limb contacts the power lines and creates a fault. The recloser senses it and opens, creating the first blink.

Here's where a recloser differs from your home circuit breaker. It waits a certain amount of a time (typically a few seconds), then recloses to try and complete the circuit. If the fault is still there, it opens again. This creates the second blink. Triple-shot settings allow the device to reclose a third time and if the fault is still there, it stays open and the members downstream experience a power outage.

Blinks are a nuisance, but they eliminate a lot of extended outages by protecting wires and equipment from serious damage.

So, what kind of technology is improving service reliability? When

combined with field construction practices, like building multiple ways to feed power loads and the deployment of advanced metering systems (AMI), the future of reliability is bright—pun intended.

“AMI allows us to be proactive, rather than reactive, when dealing with outages or other issues on the system; we can ping meters, monitor blink counts and voltages, and pinpoint the location of an issue before it becomes a major problem,” explained April Engstrom, Radiant's System Operator.

These devices allow a co-op to program the device to behave a certain way when a specific event occurs. It also means the co-op can remotely command the device to take an action.

During a power outage, is when AMI and outage management systems (OMS) earn their keep. The AMI meter can communicate with the electric co-op. The OMS maps system data and meter locations into a piece of software that models the electric grid. When a device on the grid reports loss of power, the OMS calculates the exact location of the fault and the number of members impacted.

Now, the whole suite of systems your co-op uses comes into play. The co-op dispatcher can call out or redirect a crew to the exact location of the problem. A map of the outage and number of impacted members is generated and member service reps are notified that an outage is in progress. For members who have signed up for it, they might receive a text stating there's an outage and another when power is restored.

The result of all this technology is the minimization of outages and their length, plus more availability of up-to-date information for the consumer.

Mother Nature is a tough opponent, and it's impossible to eliminate outages and blinks altogether. But with the way technology is advancing, we can expect to see some remarkable improvements.